INITIAL HYPOTENSION IN ACUTE MYOCARDIAL INFARCTION: PATIENT CHARACTERISTICS, TREATMENT, AND OUTCOME

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Fifty (5%) of 1,025 pts with acute myocardial infarction (AMI) initially screened by paramedics were found conscious and hypotensive on first exam [systolic pressure (BP) of ≤90 mmHg]. Compared to normotensive pts, there was no difference in age (64± 12 vs 66± 13), sex (25% female vs 34%), or incidence of prior cardiac histories (MI 35% vs 34%; heart failure 12% vs 13%) in those initially hypotensive. Anterior ST elevation was present in 12 pts (24%), inferior in 17 pts (34%), and other non-specific ECG abnormalities in 20 pts (40%). Mortality rates were significantly higher in pts with either anterior (50%) or non-specific ECG (30%) changes compared to those with inferior abnormalities (6%) ($p<0.01$). Mortality was higher in pts with initial hypotension (26%) compared to those who were normotensive (10%) ($p<0.001$). Thrombolytic therapy and/or emergent angiography was done in 59% of hypotensive pts; mortality was 21% in this subset compared to 33% in others who did not receive these interventions.

In summary, hypotension was present in 5% of AMI pts initially screened by paramedics. Hypotension combined with either anterior or non-specific ECG findings (but not inferior ST elevation) is associated with high mortality--identifying subgroups of pts in whom early aggressive therapeutic measures are likely indicated.

RISK STRATIFICATION IN PATIENTS WITH MYOCARDIAL INFARCTION WITH OR WITHOUT RIGHT VENTRICULAR INVOLVEMENT

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In pts with posterior myocardial infarction (P-MI), ST segment elevation (ST-E >0.1mV) in lead V4 right (Wilson, V4r) is used to indicate right ventricular involvement (RV-I). During a 3-year prospective trial, we studied 190 pts (156 men, 34 women) with acute P-MI for the prognostic relevance of ST-E and 5 combined criteria (e.g. ST-E VR4>V1-3 = Sendon criterion) in comparison with clinical variables. On admission, 116 pts had no ST-E in V4r (group A) and 71 pts ST-E >=0.1 mV (group B). During multivariate analysis, in-hospital mortality/complications were best predicted by any ST-E in VR4, ST-E VR3-6+V5-6>0.5 mV and the Sendon criterion, as well as by the results of thrombolysis. In-hospital events:

Sendon / ST-E V4r:	0 mV	>= 0.1 mV	p<0.05
max. CPK (u/l)	691	998	*
mean RR (mmHg)	123	99	*
Cardiogenic shock	28	6	*
Ventr. fibrillation	17	8	*
Ventr. tachycardia	14	9	*
AV-Block III.	20	2	*
Death	31	9	*

Conclusion: Sendon criterion and ST-E V4r are simple, but highly sensitive and predictive markers for short-and long-term outcome of pts with P-MI and RV-I.

PRIOR CORONARY ARTERY SURGERY AND ACUTE MYOCARDIAL INFARCTION: PATIENT CHARACTERISTICS, TREATMENT, AND OUTCOME

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In the MITI registry, 304 (10%) of 3026 pts with AMI had prior CABG. These pts were younger (64 vs. 66, p=.003), and had more prior angina (83% vs. 36%, p<.0001), AMI (65% vs. 23%, p<.0001), and CHF (19% vs. 12%, p=.0001) than others with AMI. The mean time from symptom onset to hospital arrival was 5 ± 13 hrs and 7 ± 16 hrs for prior and non prior CABG pts, respectively (p=.07). In-hospital interventions of thrombolytic therapy (22%), PTCA (19%), and/or CABG (10%) occurred in 1207 pts and were distributed equally, except that prior CABG pts had PTCA less often (14% vs. 20%, p=.04). There was considerable inter-hospital variation in the use of these procedures in the prior CABG group. Hospital mortality in the intervention group was higher for those with prior CABG (12.3% vs. 5.7%, p=.006), and in the non-intervention group, it was 9.5% and 12.6% for prior and non prior CABG pts, respectively (p=.43). After adjustment for key predictors of hospital mortality, prior CABG was still associated with increased mortality in the intervention group (p=.012). In conclusion, careful attention to patient selection and choice of reperfusion strategy is required in this high risk group.

VON WILLEBRAND FACTOR: A PREDICTOR OF CARDIOVASCULAR EVENTS IN SURVIVORS OF MYOCARDIAL INFARCTION

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This study evaluates the role of von Willebrand factor (vWF) and established cardiovascular risk factors as predictors of reinfarction and cardiovascular mortality. In 1982-1983, 123 consecutive survivors of acute myocardial infarction (AMI) were entered into the study. They were sampled 3 months after discharge from hospital. In citrated plasma samples, vWF was measured by an ELISA. Lipid levels and clinical risk factors were also recorded.
The mean observation time was 4.9 years, during which 23 patients died and 36 had at least one reinfarction. High concentrations of vWF were independently associated with both reinfarction and mortality in Cox regression analyses. The risk increased progressively through the quartiles of the vWF levels. A history of angina pectoris was also independently associated with both endpoints. Hypertension was independently associated with mortality but not with reinfarction. Serum cholesterol and triglycerides, and fibrinolytic activity, were not associated with these endpoints.
We conclude that vWF, which is synthesized in vascular endothelium and can be regarded as a marker of endothelial dysfunction, emerges as a novel risk indicator which may be a useful addition to the arsenal of means of identifying a high-risk group for reinfarction and death among patients with AMI.